Program of Fourteenth Symposium on Coordinated Observations of the Ionosphere and the Magnetosphere in the Polar Regions held at the National Institute of Polar Research, Tokyo, January 22–23, 1991

I. Ionospreric and Magnetospheric Structure

1. Observation of the polar ionosphere by the NEI on board OHZORA satellite. T. TAKAHASHI, H. OYA and T. SAITO.
2. Structure of electron density near AKR generation region. K. KOBAYASHI and H. OYA.
3. Electron density profiles observed by rocket experiments at Syowa Station, Antarctica. T. HIRASAWA.
4. Low energy downward flowing ion (DFI) events observed by EXOS-D/SMS. E. SAGAWA, B. A. WHALEN, A. W. YAU and S. WATANABE.

PI. Disturbances in the Ionosphere

5. Ionospheric total electron content estimated from VLBI data observed on baselines including Syowa in Antarctica. T. KONDO and N. KURIHARA.
6. A relation between polar ionospheric disturbance and GPS satellite positioning error. H. MAENO, T. OGAWA, S. YAMAMOTO and A. OHTSUKA.
7. Analysis of the lower ionospheric disturbances by use of Omega signals observed simultaneously at three stations in Iceland. N. KAWAKAMI, S. SHIMAKURA, N. SATO, H. YAMAGISHI, T. ARAKI and M. HAYAKAWA.
8. On the relationship between the lower ionospheric height and some geomagnetic indices on the basis of the cut-off frequency of tweek atmospherics. S. SHIMAKURA, M. MORIIZUMI and M. HAYAKAWA.

PII. Aurora and Related Phenomena

9. Magnetic and electric fields in the field-aligned current regions in relation to auroral structures. M. SATO, R. FUJII, M. SUGIURA, R. A. HOFFMAN, N. C. MAYNARD and J. A. SLAVIN.
10. Development of a quick look system for CNA-image by a personal computer. M. SATO, M. NISHINO, H. YAMAGISHI and N. SATO.
11. Development of auroral surges by wide-range images. K. ROKUYAMA, T. HIRASAWA and T. ONO.
12. North-south asymmetry of the magnetosphere deduced by non-conjugacy of small-scale auroras. T. NAGAOKA, N. SATO, K. MAEZAWA, K. UCHIDA and O. SAKA.
13. He^{++} from solar wind and D^{+} from earth ionosphere measured by AKEBONO-SMS. S. WATANABE, E. SAGAWA, I. IWAMOTO, B. A. WHALEN, A. W. YAU and S. WATANABE.
14. On the upper atmospheric observation at ASKA Camp in Antarctica. A. YUKIMATU, M. EJIRI, A. KADOKURA and T. ARAKI.
15. Ionospheric electric field observation with balloon in JARE30. A. KADOKURA, M. EJIRI, T. YAMAGAMI and A. AKIYAMA.
16. Development of auroral X-ray imager onboard the polar patrol balloon. H. SUZUKI, R. FUJII, H. AKIYAMA, T. YAMAGAMI, H. MURAKAMI, Y. HIRASHIMA and M. KODAMA.

II. Aurora and Related Phenomena (I)

17. Development of an auroral spectrometer and its preliminary observation results. H. OKAMURA, M. EJIRI, T. YOKOTA and S. SASAKI.
18. Imaging riometer observation in Iceland — Comparison of auroral and CNA image —. H. YAMAGISHI, M. NISHINO, M. SATO, M. KOJIMA, T. KIKUCHI and N. SATO.
19. A method of image analysis for the aurora stereo observation (III). T. ASO, T. HASHIMOTO, T. YABU, M. EJIRI and H. YAMAGISHI.
20. A particle simulation of auroral omega bands and torch-like structures. T. YAMAMOTO, K. MAKITA and C. I. MENG.

III. Magnetosphere-Ionosphere Coupling

21. Computer study of a field-aligned current system caused by 3-D fast magnetic reconnec-

tion. M. UGAI.

22. Magnetic field structures in the near-earth magnetotail during neutral sheet crossings. N. NAKAGAWA.
23. Explosive development of the tail current prior to the current disruption. S. OHTANI, K. TAKAHASHI, L. J. ZANETTI, T. A. POTEMRA, R. W. MCENTIRE and T. IIJIMA.
24. Dynamics of the plasmasheet using data of precipitating particles and magnetic variation at 800 km. M. WATANABE and K. IIJIMA.

IV. Aurora an Related Phenomena (II)

25. Pulsating auroras and concurrent long-period geomagnetic pulsations. T. YAMAMOTO, K. HAYASHI and R. NAKAMURA.
26. Detection of pulsating LF hiss emissions in the region of pulsating aurora. A. MORIOKA, H. MIYAOKA, H. OYA, S. MACHIDA, T. MUKAI, Y. SAITO and K. HIRAHARA.
27. Precipitation pattern of the energetic particles at different phases of substorms. R. NAKAMURA.
28. DE satellite conjugate observations of auroral plasmas in the magnetosphere. C. S. LIN.

V. Polar Cap and Cusp Phenomena

29. Identification of polar cap boundary. T. OBARA, T. MUKAI, H. HAYAKAWA, S. MACHIDA, K. TSURUDA, A. NISHIDA and N. KAYA.
30. Electric field oscillations in the charged particle precipitation region; EXOS-D observation. A. MATSUOKA, T. MUKAI, H. HAYAKAWA, K. TSURUDA, A. NISHIDA, N. KAYA, T. OKADA and H. FUKUNISHI.
31. Electric field in the earth's polar region observed by EXOS-D and interplanetary t magnetic field observed by IMP-J. T. NAKAGAWA and K. I. TSURUDA.
32. Derivation of polar cap AE index. S. SAROSO, M. SUGIURA, T. IYEMORI, T. ARAKI and T. KAMEI.
33. Behaviors of CNA events in the regions of aurora and polar cap. M. NISHINO, Y. TANAKA, T. OGUTI, S. KOKUBUN and A. EGELAND.

VI. Plasma Wave Phenomena

34. On the system of Aureol-3 satellite direction finding for ionospheric and magnetospheric ELF waves. M. HAYAKAWA, F. LEFEUVRE and J. L. RAUCH.
35. On a method to estimate the ionospheric exit-region ULF/VLF waves observed on the ground. S. SHIMAKURA, M. HAYAKAWA and N. SATO.
36. Energy conversion rates from electrostatic plasma waves into electromagnetic waves through plasma irregularities. M. IIZIMA and H. OYA.
37. Scanning beam riometer observations of particle precipitations modulated by Pc 5 magnetic pulsations. O. SAKA and H. YAMAGISHI.
38. Pc 4 pulsation associated with SSC of the magnetic storm caused by the cavity resonance. Y. KATO and Y. TONEGAWA.
39. Scandinavian IMS magnetometer array and its use for studies of geomagnetic rapid variations. T. ARAKI, H. SHIMAZU, T. KAMEI and H. HANADO.

PIII. ULF Wave Phenomena

40. Statistical analysis on the wave mode of Pc 3–4 at synchronous orbit. H. MATSUOKA and T. SAITO.
41. Current wedge configuration inferred from the wave mode distribution of Pi2 pulsations at synchronous orbit. H. TAKEUCHI, T. SAITO, T. SAKURAI, H. MATSUOKA and T. TAKAHASHI.
42. Substorm mechanisms as inferred from cometary disturbances. T. SAITO, T. TAKAHASHI, Y. KOZUKA, H. TAKEUCHI and S. MINAMI.
43. ULF waves observed by the AKEBONO satellite. Y. TONEGAWA, F. TOHYAMA, T. TAKAHASHI and H. FUKUNISHI.
44. Ion cyclotron wave associated with SSC of magnetic storm and the entry of solar wind plasma into the boundary layer. Y. KATO and Y. TONEGAWA.

PIV. VLF Wave Phenomena

45. Ground-based direction finding of magnetospheric VLF electromagnetic waves. M.

SHIMIZU, K. HATTORI, N. IWAMA, S. SHIMAKURA and M. HAYAKAWA.

46. On the mechanism of hiss-triggered chorus based on the detailed spectral analysis. K. HATTORI, M. HAYAKAWA, S. SHIMAKURA, D. LAGOUTTE, M. PARROT and F. LEFEUVRE.
47. On the estimation of the ionospheric exit-region of magnetospheric VLF waves observed at high latitudes. M. IMAI, S. SHIMAKURA, N. SATO and M. HAYAKAWA.
48. Propagation characteristics of VLF emissions observed simultaneously onboard balloons and on the ground in the polar regions. H. KAMIZONO, N. SATO, H. MIYAOKA, S. ULLALAND and T. YOSHINO.
49. Relationship between CNA pulsation observed by imaging riometer and magnetic pulsation. K. KATO, H. YAMAGISHI, Y. TONEGAWA, N. SATO and O. SAKA.

PV. Wave Phenomena in the Middle Atmosphere

50. Observation of polar stratosphere by laser heterodyne spectroscopy. M. TAGUCHI, S. OKANO and H. FUKUNISHI.
51. Observation plans of PSCs, stratospheric minorconstituents and Arctic heze over Canadian Arctic. T. SHIBATA, O. UCHINO and Y. MAKINO.
52. Wave characteristics of Pc 3 magnetic pulsations observed along 210° magnetic meridian. B. J. FRASER and F. W. MENK.
53. Ground induction effect on the polarization characteristics of geomagnetic pulsations observed around Syowa. S. TSUNOMURA, N. SATO and K. KATO.
54. Attenuation of omega signals along an increasing propagation path. S. NAGAI, T. ISHII, S. YAMAMOTO, K. OHTAKA and H. MAENO.

VII. Solar Activity and Magnetic Storm

55. Solar variability effects on the ionospheric parameters from Feb., 1969 to Mar., 1987 obtained by ionosonde at Syowa Station, Antarctica. K. IGARASHI, H. KATAOKA, H. KATO and H. MAENO.
56. Recurrence of substorm activity derived from the triple-dipole model on heliomagnetosphere. T. SAITO, T. TAKAHASHI, Y. KOZUKA, H. TAKEUCHI and H. MATUOKA.
57. Solar cycle variation in diurnal frequency of Pi2 occurrence. Y. KOZUKA, T. SAITO, H. TAKEUCHI and T. TAKAHASHI.
58. A dynamics pressure control of the size of the magnetosphere and the possible triggering of substorm. S. MINAMI and T. SAITO.
59. Excitation process of low latitude aurorae on October 21, 1989. B. SAITO, T. TAKAHASHI and Y. KIYAMA.
60. Generation mechanism of low latitude aurora. H. MIYAOKA, T. HIRASAWA, K. YUMOTO, Y. TANAKA, F. CREUTZBERG and D. D. WALLIS.
61. Features of storm-time UV-auroras observed by AKEBONO satellite. E. KANEDA, T. YAMAMOTO, K. HAYASHI, A. KADOKURA, R. FUJII, M. EJIRI, K. MAKITA and T. OGUTI.
62. Major solar activity of 1989 and its consequences at earth and in near-earth space. J. H. ALLEN.

VIII. Middle Atmosphere

63. Doppler imaging observations of aurora at Syowa Station, Antarctica: preliminary results. S. OKANO, H. NAKAJIMA, T. ONO, K. SHIOKAWA and H. FUKUNISHI.
64. Neutral wind in the E-region at high latitude from EISCAT data. M. KUNITAKE and K. SCHLEGEL.
65. Formation of the noctilucent cloud and the summer polar mesospheric echo layers. T. SUGIYAMA and Y. MURAOKA.

IX. Future Program

66. Polar patrol balloon (PPB) experiment in JARE30. A. KADOKURA, M. EJIRI, S. OHTA and H. AKIYAMA.
67. Applications of Antarctic data transferred via satellite link for space weather forecast. M. TOKUMARU, K. KAWASAKI, M. EJIRI, H. YAMAGISHI and N. SATO.
68. An overview of the study of polar ionospheric plasma motions by HF radars. T. OGAWA.
69. Planning of Antarctic radio telescope — Observations with millimeter waves for trace gas monitoring in the stratospheric ozone layer and for radio astronomy —. S. OCHIAI, H. MASUKO, K. MARUHASHI, T. HASEGAWA, M. HAYASHI and M. EJIRI.